



Attorney Docket No. 351999-991410

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Mikhail Godkin

Application No. 10/693,394

Filed: October 24, 2003

For: CLOSED-ENDED LINEAR VOICE
ACTUATOR WITH IMPROVED FORCE
CHARACTERISTIC

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Group Art Unit: 1651

Examiner: Phylesha L. DABNEY

APPEAL BRIEF

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April 16, 2008.

Ta-Tanisha L. Henry

Dear Sir/Madam:

This is an appeal from the Office Action, made final, dated August 8, 2007, ("Final Office Action"), and a Notice of Appeal that was received by the Patent Office on February 5, 2008. One (1) copy of this appeal brief is enclosed.

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Real Party in Interest

The real party in interest is BEI Sensor and Systems Company, the assignee of record, which is a fully consolidated company of Schneider Electric, SA.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of Claims

Claims 1 through 40 are pending in the application. Claims 1 and 2 have been finally rejected by the Examiner. Claims 2, 3, 5, 7, 10-20, 25 and 26 have been objected to by the Examiner. Claims 34, 36 and 38 are allowed. Claims 4, 6, 8, 9, 21-24, 27-33, 35, 37, 39 and 40 have been withdrawn from consideration. This is an appeal of the rejection of claims 1 and 2.

Status of Amendments

No amendments were filed subsequent to the final rejection.

Summary of claimed subject matter

Claim 1 is the only independent claim involved in the appeal and is directed towards a linear actuator apparatus.

As required by MPEP 1205.02, in the following concise explanation of the subject matter of the independent claims involved in the appeal, references are made to the specification and drawings as an aid for the Board to determine the claimed subject matter. However, these references are intended as examples of the subject matter of the claims, and there is no intention in the use of such references to limit the breadth of the invention claimed to the specific examples identified.

Claim 1:

Claim 1 is directed to a linear actuator,¹ which includes a core² having a longitudinal axis³ and a coil⁴ shaped for movement⁵ along the longitudinal axis of the core. The linear actuator also includes a magnet structure⁶ positioned along the longitudinal axis of the core. The core includes first and second portions,⁷ each including an end face⁸ and a cavity⁹ formed in the end face having an axis of symmetry¹⁰ along the longitudinal axis of the core. Also, the first and

¹ See Fig. 6, reference numeral 70; published application ¶¶ 0030, 0034.

² See Figs. 4, 5, 12A, 12B, reference numerals 64, 98; published application ¶¶ 0030, 0031, 0035, 0044, 0045, 0046, 0047.

³ See Figs. 4, 5, reference numeral 66; published application ¶¶ 0031, 0033, 0035, 0040, 0042, 0045, 0046, 0047.

⁴ See Figs. 4, 5, 12A, 12B, reference numerals 50, 60, 90, 94; published application ¶¶ 0030, 0032, 0034, 0044, 0045, 0047.

⁵ See ¶¶ 0032, 0034.

⁶ See Figs. 4, 5, 12A, 12B, reference numerals 52, 62, 88, 96; published application ¶¶ 0030, 0037, 0044, 0045, 0047.

⁷ See Figs. 4, 5, reference numerals 64A, 64B; published application ¶¶ 0031, 0032, 0036, 0045, 0046, 0047.

⁸ See Figs. 4, 5; published application ¶¶ 0031, 0045, 0046.

⁹ See Figs. 4, 5, reference numerals 68, 82A, 82B; published application ¶¶ 0035, 0036, 0038, 0040, 0041, 0042, 0046.

¹⁰ See Figs. 4, 5, 10.

second portions are positioned so that the end faces oppose each other and are separated by a gap.¹¹

¹¹ See Figs. 4, 5, reference numeral 69; published application ¶¶ 0036, 0037.

Grounds of rejection to be reviewed on appeal

The issues on appeal are:

- (1) Whether claims 1 and 2 are unpatentable under 35 USC §102(b) as anticipated by US Pat. No. 5,898,244 to Kotsianas et al. ("Kotsianas et al.").

Argument

Rejection of claims 1 and 2: 35 USC 35 USC §102(b)- Kotsianas et al.

The Examiner rejected claims 1 and 2 under 35 USC 102(b) as being anticipated by Kotsianas et al., USP 5,898,244.

With respect to involved independent claim 1, the Examiner stated:

Regarding claim 1, Kotsianas teaches a linear actuator comprising a core (16) having a longitudinal axis; a coil (14) shaped for movement along the longitudinal axis of the core; and a magnet structure (12, 18) positioned along the longitudinal axis of the core; wherein the core includes first and second portions, each including an end face (near 66, 72) and a cavity (at 66, 72 relative to core 16) having an axis of symmetry along the longitudinal axis of the core, and further wherein the first and second portions are positioned so that the end faces oppose each other and are separated by a gap (62).

(Final Office Action, pages 2-3.)

Applicant respectfully submits that Kotsianas et al. does not teach a core including “first and second portions, each including an end face and a cavity formed in the end face...wherein the first and second portions are positioned so that the end faces oppose each other and are separated by a gap,” as recited in involved independent claim 1.

As understood by Applicant, Kotsianas et al. simply disclose an electromagnetic actuator having a shaft, which is formed into a portion of a core unit. (See e.g., col. 4, lines 63-65.) The Examiner cites “near 66, 72” as teaching a first and second “end face”; and cites “at 66, 72 relative to core 16” as teaching a first and second “cavity.” Applicant respectfully points out that the Examiner does not cite a teaching of a cavity “formed in the end face,” as recited in involved independent claim 1 (see amendment to involved independent claim 1 in Applicant’s response to the Office Action mailed January 22, 2007), nor does Kotsianas et al. include such teaching. Nevertheless, to the extent the Examiner intended “near 66, 72” to mean the surfaces of first core end 34 and second core end 36 (Fig. 2) of core 16 near each of shaft 66 and pin 72 , and “at 66,

72 relative to core 16" to mean the area occupied by shaft 66 and pin 72, within core 16, Applicant respectfully submits that such areas do not meet the limitations of involved claim 1. The surfaces of first core end 34 and second core end 36 (the areas near shaft 66 and pin 72) do not oppose each other, as recited in involved independent claim 1. Moreover, Applicant respectfully submits that, instead of opposing each other, the surface areas of first core end 34 and second core end 36 near shaft 66 and pin 72 are located at opposite ends of core 16. (See Figs. 1 and 2.)

Applicant further submits that Kotsianas et al. do not disclose a gap, as recited in involved independent claim 1. As understood by Applicant, the Examiner cites eddy current reduction grooves 62 in Kotsianas et al. as teaching a "gap."

With respect to grooves 62, Applicant would also like to respectfully point out several apparent discrepancies between the specification and the figures. In the specification, for example, the discussion of grooves 62 in Column 4, lines 9-12 apparently refers to Fig. 4, as opposed to Fig. 3, since there is no element 62 anywhere in Fig. 3.

Further, Fig. 2 is described as showing a cross section rotated at a forty-five degree angle from Fig. 1. (Column 3, lines 8-10.) When Figs. 1 and 2 are viewed in conjunction with Fig. 4, in order to determine what structures in those figures corresponds to grooves 62, it appears that element 62 is erroneously labeled in Fig. 1. Namely, it appears that in Fig. 1 grooves 62 should be labeled to be defined by the "unhatched" portion on either side of the hatched portion of core 16 and between first core end 34 and second core end 36 (see Fig. 2). In light of the dimensions and orientations of the grooves 62 shown in Fig. 4, such an interpretation is consistent with the forty-five degree cross-sectional view of the actuator provided in Fig. 2, where no "unhatched

portion" is shown. It is respectfully submitted that one of ordinary skill in the art would understand from the above, that grooves 62 extend radially outward as well as axially in core 16.

Moreover, it appears that in Fig. 1 the structure to which the lead line labeled "62" refers is simply a shaft-like structure which allows air movement to or from the air gap between shaft 66 and pin 72 when shaft 66 moves relative to pin 72. (See e.g., Column 5, lines 5-14.) Indeed, the shaft-like structure labeled 62 in Fig. 1 appears only in Fig. 1, and not in Figs. 2 or 4, does not appear to be associated with any end faces, and otherwise does not appear to have the characteristics of a "gap", much less a gap that separates two end faces that oppose each other.

For the foregoing reasons, it is respectfully submitted that the feature represented by grooves 62 (Fig. 4) does not separate the areas near shaft 66 and pin 72. Moreover, because grooves 62 extend axially within core 16, grooves 62 cannot function as a "gap" which separates end faces within which are formed cavities, as recited in involved claim 1.

For these reasons, it is respectfully submitted that the Examiner's rejection of involved independent claim 1 over Kotsianas et al. is improper and must be overturned.

Dependent claim 2:

Regarding involved dependent claim 2, the Examiner stated that Kotsianas et al. teaches the linear actuator of claim 1, further including a housing (58, 60) supported by core flanges and positioned about the coil and the core. However, it is clear from an examination of Kotsianas et al., that what is described there is simply a front end cap 58 and rear end cap 60, and that there is no description of any core flanges, or a housing supported by core flanges and positioned about the coil and the core, as recited in claim 2. For these reasons, as well as the dependence of claim

2 from patentable involved independent claim 1, the Examiner's rejection of involved dependent claim 2 is improper and must be overturned.

Conclusion

For the reasons set forth above, it is respectfully submitted that Kotsianas et al. do not teach or suggest the invention claimed in claims 1 and 2, and hereby requests that the Board reverse the Examiner's rejections and affirm the patentability of the claims on appeal.

Respectfully submitted,

DLA Piper US LLP

Dated: April 16, 2008

By:



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Claims appendix page(s)



Listing of Claims:

1. (Previously presented) A linear actuator comprising
a core having a longitudinal axis;
a coil shaped for movement along the longitudinal axis of the core; and
a magnet structure positioned along the longitudinal axis of the core;
wherein the core includes first and second portions, each including an end face
and a cavity formed in the end face having an axis of symmetry along the longitudinal
axis of the core, and further wherein the first and second portions are positioned so that
the end faces oppose each other and are separated by a gap.

2. (Original) The linear actuator of claim 1, further including a housing supported by
core flanges and positioned about the coil and the core.

3. (Original) The linear actuator of claim 1, wherein the magnet assembly includes
magnets of the same polarity facing the coil.

4. (Withdrawn) The linear actuator of claim 3, wherein the magnets are shaped to be
positioned inside of the coil,

5. (Original) The linear actuator of claim 3, wherein the magnets are shaped to be
positioned outside of the coil.

6. (Withdrawn) The linear actuator of claim 4, wherein the magnets are supported by the
core.

7. (Original) The linear actuator of claim 5, further including a housing supported by core flanges and positioned about the coil and the core, and wherein the magnets are supported by the housing.

8. (Withdrawn) The linear actuator of claim 4, wherein the magnets include a radially magnetized ring magnet.

9. (Withdrawn) The linear actuator of claim 4, wherein the magnets include a plurality of segmented magnets of the same polarity.

10. (Previously presented) The linear actuator of claim 1, wherein the cavity formed in the face of the first portion of the core has a hemispherical shape.

11. (Previously presented) The linear actuator of claim 10, wherein the cavity formed in the face of the second portion of the core has a hemispherical shape.

12. (Original) The linear actuator of claim 1, wherein the cavity formed in the second portion of the core has a curvilinear cross section along the longitudinal axis.

13. (Original) The linear actuator of claim 12, wherein the cavity formed in the first portion of the core has a curvilinear cross section along the longitudinal axis.

14. (Original) The linear actuator of claim 1, wherein the cavity formed in the first portion of the core has a cross section along the longitudinal axis which is widest at the end face of the first portion of the core.

15. (Original) The linear actuator of claim 14, wherein the cavity formed in the second portion of the core has a cross section along the longitudinal axis which is widest at the end face of the second portion of the core.

16. (Original) The linear actuator of claim 1, wherein the cavity formed in each of the first and second portions of the core has a cross section along the longitudinal axis which is widest at the end face of the first portion of the core.

17. (Original) The linear actuator of claim 16, wherein the cavity formed in each of the first and second portions of the core has a hemispherical cross section along the longitudinal axis.

18. (Original) The linear actuator of claim 16, wherein the cavity formed in each of the first and second portions of the core has a curvilinear cross section along the longitudinal axis.

19. (Original) The linear actuator of claim 16, wherein the cavity formed in each of the first and second portions of the core has a cross section along the longitudinal axis which is widest toward the end face, and which progressively narrows along the longitudinal axis away from the end face.

20. (Original) The linear actuator of claim 16, wherein the cavity in each of the first and second portions of the core along the longitudinal axis is formed by removing circular regions of material of selected depths and selected diameters which are coaxial with the longitudinal axis, and further wherein the selected diameters of the circular regions decrease in a direction away from the end face.

21. (Withdrawn) The linear actuator of claim 16, wherein the cavity in each of the first and second portions of the core along the longitudinal axis is formed by drilling out regions of material of selected depths and selected diameters which are coaxial with the longitudinal axis, and further wherein the selected diameters of the drilled out regions increase in a direction toward the end face.

22. (Withdrawn) The linear actuator of claim 2, wherein the core, coil, housing and magnet structure are square in shape transverse to the longitudinal axis.

23. (Withdrawn) The linear actuator of claim 22 where the core comprises first and second portions each having a face, and a cavity is formed in each face having an axis of symmetry about the longitudinal axis.

24. (Withdrawn) The linear actuator of claim 23, wherein the cavity in each face is formed from a plurality of square cavities of increasing cross-section beginning at a selected distance from the face.

25. (Original) The linear actuator of claim 2, wherein the core, coil, housing and magnets are cylindrical in shape in a direction perpendicular to the longitudinal axis, and the cavity formed in each face of the first and second portions of the core is half-spherical.

26. (Original) The linear actuator of claim 3, wherein the gap is formed in a plane transverse to the longitudinal axis, and the magnets are positioned to form a space between them which is aligned with the plane transverse to the longitudinal axis.

27. (Withdrawn) A method for constructing a linear actuator comprising the steps of forming a core having a first portion and a second portion positioned along a longitudinal axis;

defining an end face in each of the first and second portions;

forming a cavity having an axis of symmetry along the longitudinal axis of the core in each of the first and second portions; and

positioning the first and second portions so that the end faces oppose each other and are separated by a gap;

shaping a coil for movement along the longitudinal axis of the core; and

positioning a magnet structure along the longitudinal axis of the core.

28. (Withdrawn) The method of claim 27, wherein the cavity forming step includes the step of shaping the cavity to have a half-spherical cross section.

29. (Withdrawn) The method of claim 27, wherein the cavity forming step includes the step of shaping the cavity to have a curvilinear cross section.

30. (Withdrawn) The method of claim 27, wherein the cavity forming step includes the step of shaping the cavity to have a cross section along the longitudinal axis which is widest at the end faces of the first and second portions of the core.

31. (Withdrawn) The method of claim 27, wherein the cavity forming step includes the step of removing circular regions of material of selected depths and selected diameters which are coaxial with the longitudinal axis, causing the selected diameters of the circular regions to decrease in a direction away from the end face.

32. (Withdrawn) The method of claim 27, wherein the cavity forming step includes the step of drilling out regions of material of selected depths and selected diameters which are

coaxial with the longitudinal axis, and causing the selected diameters of the drilled out regions to increase in a direction toward the end face.

33. (Withdrawn) The method of claim 27, wherein the first and second portion positioning step includes the step of forming the gap in a plane transverse to the longitudinal axis, and further wherein the magnet structure positioning step includes the step of positioning a plurality of magnets to form a space between them which is aligned with the plane transverse to the longitudinal axis.

34. (Original) A linear actuator comprising
a core;
a coil shaped to be positioned about the core for movement along a longitudinal axis of the core;
a magnet assembly including magnets of the same polarity facing the coil; and
a housing supported by core flanges and positioned about the coil and the core;
and

wherein the core includes first and second portions, each having an end face, and the first and second portions are positioned along the longitudinal axis so that the end faces oppose each other and are separated by a gap, and further wherein a cavity is symmetrically formed in each of the end faces along the longitudinal axis.

35. (Withdrawn) The linear actuator of claim 34, wherein the magnets are shaped to be positioned inside of the coil, and to be supported by the core.

36. (Original) The linear actuator of claim 34, wherein the magnets are shaped to be positioned outside of the coil, and to be supported by the housing.

37. (Cancelled - not presented in original)

38. (Original) The linear actuator of claim 34, wherein the cavity formed in each face of the first and second portions of the core has a half-spherical cross section relative to the longitudinal axis.

39. (Withdrawn) The linear actuator of claim 34, wherein the cavity in each face of the first and second portions of the core is created by forming concentric bores of varying diameters in the end faces of the first and second portions of the core having centers along the longitudinal axis.

40. (Withdrawn) A method for constructing a linear actuator comprising the steps of:

forming a core having a first portion and a second portion positioned along a longitudinal axis;

defining an end face in each of the first and second portions;

removing material symmetrically along the longitudinal axis of the core to form a cavity in each of the first and second portions; and

positioning the first and second portions so that the end faces oppose each other and are separated by a gap;

shaping a coil for movement along the longitudinal axis of the core; and

positioning a magnet structure along the longitudinal axis of the core.

Evidence appendix page(s)

1. Application and drawings (as published in US 2004/0156526 A1)
2. Final Official Action dated August 8, 2007
3. Reference 1 -- 5,898,244 Kotsianas et al.

Related proceedings appendix page(s)

There are no related proceedings.

APPENDIX 1

**Application and Drawings
(as published in US 2004/0156526 A1)**

APPENDIX 2

Final Office Action dated August 8, 2007



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,394	10/24/2003	Mikhail Godin	2102483-991410	1651
29585	7590	08/08/2007	EXAMINER	
DLA PIPER US LLP 153 TOWNSEND STREET SUITE 800 SAN FRANCISCO, CA 94107-1957			DABNEY, PHYLESHA LARVINIA	
		ART UNIT	PAPER NUMBER	
		2614		
		MAIL DATE	DELIVERY MODE	
		08/08/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

R E C E I V E D

AUG 13 2007

DLA PIPER RUDNICK
GRAY CARY

8/13/07
MLW



Office Action Summary

Application No.	Applicant(s)	
10/693,394	GODIN, MIKHAIL	
Examiner	Art Unit	
Phylesha L. Dabney	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 5/8/07.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 4,6,8,9,21-24,27-33,35,37,39 and 40 is/are withdrawn from consideration.
- 5) Claim(s) 34,36 and 38 is/are allowed.
- 6) Claim(s) 1 and 2 is/are rejected.
- 7) Claim(s) 2,3,5,7,10-20,25 and 26 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

This action is in response to the response filed on 8 May 2007 in which claims 1-38, and 40 are pending, and claim 37 is cancelled.

Election/Restrictions

Applicant's election without traverse of **Group I, Species I, Claims 1, 2, 3, 5, 7, 10-20, 25-26, 34, 36, 38 (Figure 4)** is acknowledged.

Claims 4, 6 (depends on claim 4), 8-9 (depends on claim 4), 21-24, 27-33, 35, 37, and 39-40 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group and Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 20 November 20, 2006.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

S A M V M R
Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kotsianas et al (U.S. Patent No. 5,898,244).

Regarding claim 1, Kotsianas teaches a linear actuator comprising a core (16) having a longitudinal axis; a coil (14) shaped for movement along the longitudinal axis of the core; and a

magnet structure (12, 18) positioned along the longitudinal axis of the core; wherein the core includes first and second portions, each including an end face (near 66, 72) and a cavity (at 66, 72 relative to core 16) having an axis of symmetry along the longitudinal axis of the core, and further wherein the first and second portions are positioned so that the end faces oppose each other and are separated by a gap (62).

Regarding claim 2, Kotsianas teaches the linear actuator of claim 1, further including a housing (58, 60) supported by core flanges and positioned about the coil and the core.

Allowable Subject Matter

Claims 34, 36, and 38 are allowed.

Claims 3, 5, 7, 10-20, 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims **1, 2, 3, 5, 7, 10-20, 25-26, 34, 36, 38** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2614

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phylesha L. Dabney whose telephone number is 571-272-7494. The examiner can normally be reached on Mondays, Wednesdays, Fridays 8:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P O Box 1450
Alexandria, VA 22313-1450

Or faxed to:

(703) 273-8300, for formal communications intended for entry and for informal or draft communications, please label "Proposed" or "Draft" when submitting an informal amendment.

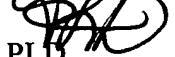
Hand-delivered responses should be brought to:

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Alexandria, VA 22314

Art Unit: 2614

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

August 5, 2007



PLD



CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

APPENDIX 3

**Reference 1 – U.S. Patent No. 5,898,244 to
Kotsianas et al.**